

REMARKS/ARGUMENTS

In the Office Action mailed March 21, 2008, claims 1-15 and 17-26 were rejected. In response, Applicants hereby request reconsideration of the application in view of the amendments and the below-provided remarks. Claim 26 is canceled. No claims are added.

For reference, claim 3 is amended to correct a grammatical error. In particular, claim 3 is amended to delete the comma and to add a period at the end of the claim.

Claim Rejections under 35 U.S.C. 103

Claims 1-5, 9-14, 17-20, and 24-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Norman (U.S. Pat. No. 6,438,665, hereinafter Norman) in view of Magro (U.S. Pat. No. 6,151,658, hereinafter Magro). Additionally, claims 6-8 and 21-23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Norman in view of Magro, and further in view of Reams (U.S. Pat. No. 6,438,660, hereinafter Reams). Additionally, claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Norman in view of Magro, and further in view of Sunaga et al. (U.S. Pat. No. 6,785,154, hereinafter Sunaga). However, Applicants respectfully submit that these claims are patentable over Norman, Magro, Reams, and Sunaga for the reasons provided below.

Independent Claim 1

Claim 1 recites “ascertain whether said first address information is stored in said register” and “if yes, compare said first write data with second write data of an earlier write request in said register allocated to said first address information” (emphasis added).

In contrast, the combination of Norman and Magro does not teach all of the limitations of the claim. The Office Action acknowledges Norman does not teach ascertaining whether a first address information is stored in the register and, if yes, comparing the first write data with second write data of an earlier write request in the register, as recited in the claim. Hence, the Office Action relies on Magro as purportedly teaching the indicated limitations. However, Magro also fails to teach the indicated

limitations. In particular, Magro does not teach comparing the first write data with second write data of an earlier write request in the register.

Magro is directed to a system with a write buffer to provide random access snooping capability. Magro, abstract. More specifically, Magro describes a random access memory (RAM) 80 with a content addressable memory (CAM) address store 68 and a RAM data store 70. Magro, Fig. 2. A producer provides the address store with an input write address and provides the data store with input write data. The CAM compares the input write address to the addresses in the address store to determine if the input write address is “related” to an address present in the address store. If the input address is related to an address in the address store, then the input write data is stored in the rank of the data store associated with the related address in the address store. Magro, col. 2, lines 20-37.

Magro describes two ways to store the input write data in the data store. For input write data that does not overlap with the data already stored in the rank of the data store, a write merging operation merges the input write data with the existing write data in the data store. Magro, col. 2, lines 37-40. An example of write merging is explained in relation to Fig. 3E, in which the input write data ‘---52cc’ is merged with the existing write data ‘a369----’ to produce write data ‘a36952cc’ in the data store. Magro, col. 10, lines 19-23. For input write data that overlaps with the data already stored in the rank of the data store, a write collapse operation overwrites the corresponding write data in the data store using the input write data. Magro, col. 2, lines 40-43; col. 12, lines 34-37. An example of write collapsing is explained in relation to Fig. 4E, in which the input write data ‘---52cc’ partially overwrites the existing write data ‘a36941ff’ to produce write data ‘a36952cc’ in the data store (i.e., the ‘41ff’ portion of the existing write data is overwritten by the input write data ‘52cc’). Magro, col. 12, lines 16-25.

Although Magro describes write merging and write collapsing to place the input write data in the data store, Magro does not describe comparing the input write data with the existing write data already in the data store. Rather, Magro merely describes using valid bits to indicate whether the existing write data is valid. Magro, col. 23-25. In the examples referred to above, the invalid write data designated by dashes ‘----’ would not have the corresponding valid bits set, while the valid write data would have the

corresponding valid bits set. However, the valid bits are not used for any type of comparison between the input write data and the existing write data already in the data store. Thus, even if Magro were to describe ascertaining whether an input write address is stored in the address store, Magro nevertheless does not describe comparing the input write data with the existing write data already in the data store.

Therefore, the combination of Norman and Magro does not teach all of the limitations of the claim because Magro does not teach comparing first write data with second write data of an earlier write request in the register, as recited in the claim. Accordingly, Applicants respectfully assert claim 1 is patentable over the combination of Norman and Magro because the combination of Norman and Magro does not teach all of the limitations of the claim.

Independent Claim 17

Applicants respectfully assert independent claim 17 is patentable over the combination of Norman and Magro at least for similar reasons to those stated above in regard to the rejection of independent claim 1. In particular, claim 17 recites “ascertaining whether said first address information is stored in said writing queue” and “if yes, comparing said first write data with second write data in said writing queue allocated to said first address information” (emphasis added).

Here, although the language of claim 17 differs from the language of claim 1, and the scope of claim 17 should be interpreted independently of claim 1, Applicants respectfully assert that the remarks provided above in regard to the rejection of claim 1 also apply to the rejection of claim 17. Accordingly, Applicants respectfully assert claim 17 is patentable over the combination of Norman and Magro because Magro does not teach comparing first write data with second write data of an earlier write request in the register.

Dependent Claims

Claims 2-15 and 18-25 depend from and incorporate all of the limitations of the corresponding independent claims 1 and 17. Applicants respectfully assert claims 2-15

and 18-25 are allowable based on allowable base claims. Additionally, each of claims 2-15 and 18-25 may be allowable for further reasons.

CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-3444** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-3444** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,
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